

CLAIMS

What is claimed is:

1. An isolated polynucleotide that encodes an NPR1 polypeptide having a sequence identity of at least 80% based on the Clustal method of alignment when compared to a

5 polypeptide selected from the group consisting of SEQ ID NOs:2, 4, 6, 8, 10, 12, 14, and 16.

2. The polynucleotide of Claim 1 wherein the sequence identity is at least 85%.

3. The polynucleotide of Claim 1 wherein the sequence identity is at least 90%.

4. The polynucleotide of Claim 1 wherein the sequence identity is at least 95%.

5. The polynucleotide of Claim 1 wherein the polynucleotide encodes a polypeptide

10 selected from the group consisting of SEQ ID NOs:2, 4, 6, 8, 10, 12, 14, and 16.

6. The polynucleotide of Claim 1 wherein the polynucleotide comprises a

nucleotide sequence selected from the group consisting of SEQ ID NO:1, 3, 5, 7, 9, 11, 13, and 15.

7. The polynucleotide of Claim 1 wherein the polypeptide is an NPR1.

8. An isolated complement of the polynucleotide of Claim 1, wherein

(a) the complement and the polynucleotide consist of the same number of nucleotides, and

(b) the nucleotide sequences of the complement and the polynucleotide have 100% complementarity.

9. An isolated nucleic acid molecule that (1) comprises at least 100 nucleotides and (2) remains hybridized with the isolated polynucleotide of Claim 1 under a wash condition of 0.1X SSC, 0.1% SDS, and 65°C.

10. A cell comprising the polynucleotide of Claim 1.

11. The cell of Claim 10, wherein the cell is selected from the group consisting of a yeast cell, a bacterial cell and a plant cell.

12. A virus comprising the polynucleotide of Claim 1.

13. A transgenic plant comprising the polynucleotide of Claim 1.

14. A method for transforming a cell, comprising introducing into a cell the polynucleotide of Claim 1.

15. A method for producing a transgenic plant comprising

(a) transforming a plant cell with the polynucleotide of Claim 1, and

(b) regenerating a plant from the transformed plant cell.

16. A method for producing a polynucleotide fragment comprising

(a) selecting a nucleotide sequence comprised by the polynucleotide of

35 Claim 1, and

(b) synthesizing a polynucleotide fragment containing the nucleotide sequence.

17. The method of Claim 16, wherein the fragment is produced *in vivo*.

18. An isolated NPR1 polypeptide that has a sequence identity of at least 80% based on the Clustal method compared to an amino acid sequence selected from the group consisting of SEQ ID NOs:2, 4, 6, 8, 10, 12, 14, and 16.

5 19. The isolated polypeptide of Claim 18 wherein the sequence identity is at least 85%.

20. The isolated polypeptide of Claim 18 wherein the sequence identity is at least 90%.

10 21. The isolated polypeptide of Claim 18 wherein the sequence identity is at least 95%.

22. The polypeptide of Claim 18 wherein the polypeptide has a sequence selected from the group consisting of SEQ ID NOs:2, 4, 6, 8, 10, 12, 14, and 16.

15 23. The polypeptide of Claim 18, wherein the polypeptide is aNPR1.

24. A chimeric gene comprising the polynucleotide of Claim 1 operably linked to at least one regulatory sequence.

25. A method for altering the level of pathogen resistance in a plant, the method comprising the steps of:

20 (a) transforming a plant cell with a chimeric gene containing the polypeptide of Claim 1;

(b) culturing the transformed plant cell under conditions suitable for the expression of the chimeric gene;

(c) maintaining the plant cell under conditions that are suitable for its development into a plant; and

(d) comparing the level of pathogen resistance of the plant cell containing the polynucleotide of Claim 1 and a plant cell not containing the polynucleotide of Claim 1.